







Hawaii Reapportionment Commission

23 September 2011

Commission Meeting

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Topics

- Reapportionment using "Extraction A" population base
- Senate Staggered Terms
- Recommendations of the Technical Committee
 - Congress
 - Senate
 - House
- Commission Schedule

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Commission Schedule

Extraction of Non-Permanent Residents

- EXTRACTION A:	extraction	adjusted total
- Oahu	-15,660	937,547
- Hawaii	-793	184,286
- Maui	-4	154,920
- Kauai	-1	67,090

Adopted by the Hawaii Reapportionment Commission on September 19, 2011

Apportion Representatives

Hawaii Constitution Article IV Section 4

"The commission shall allocate the total number of members of each house of the state legislature being reapportioned among the four basic island units ... using the total number of permanent residents in each of the basic island units and computed by the method known as the method of equal proportions ..."

[Add Const Con 1978 and election Nov 7, 1978; am HB 2327 (1992) and election Nov 3, 1992]

"This method... serves the rational state policies articulated in the Hawaii State Constitution, which recognizes the geographic insularity and unique political and socio-economic identities of the basic island units."

[State of Hawaii 2001 Reapportionment Commission:
Final Report and Reapportionment Plan, Dec 2001]



- 1) population base
- 2) apportion representatives (reapportionment)
- 3) draw district boundaries (redistricting)



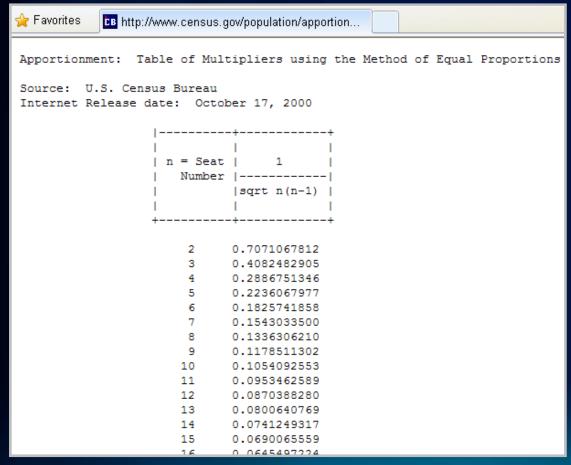


The commission allocated the total number of members of each house of the state legislature among the four basic island units by the method of equal proportions. This is the same method used to apportion the U.S. Congress. To determine each basic island unit's share of seats the commission used the permanent resident population and the Table of Multipliers for the Method of Equal Proportions.



http://www.census.gov/population/apportionment/about/computing.html

The method of equal proportions computes "priority values" based on each basic island unit's apportionment population. The priority values are calculated by dividing the population of each basic island unit by the geometric mean of its current and next seats. The priority values are then ranked and used to assign members in the house and senate starting with the second seat.



RANKING OF PRIORITY VALUES									
	Each Basic Island Unit gets one initial seat in each branch, so start with seat #2								
RGM	BIUPop	Priority	Seat#	BIU Senate	BIU House BIU				
0.70710678 x	937547 =	662946	5	2	2 Oahu				
0.40824829 x	937547 =	382752	6	3	3 Oahu				
0.28867513 x	937547 =	270647	7	4	4 Oahu				
0.2236068 x	937547 =	209642	8	5	5 Oahu				
0.18257419 x	937547 =	171172	9	6	6 Oahu				
0.15430335 x	937547 =	144667	10	7	7 Oahu				
0.70710678 x	184286 =	130310	11	2	2 Hawai	i			
0.13363062 x	937547 =	125285	12	8	8 Oahu				
0.11785113 x	937547 =	110491	13	9	9 Oahu				
0.70710678 x	154920 =	109545	14	2	2 Maui				
0.10540926 x	937547 =	98826.1	15	10	10 Oahu				
0.09534626 x	937547 =	89391.6	16	11	11 Oahu				
0.08703883 x	937547 =	81603	17	12	12 Oahu				
0.40824829 x	184286 =	75234.4	18	3	3 Hawai	i			
0.08006408 x	937547 =	75063.8	19	13	13 Oahu				
0.07412493 x	937547 =	69495.6	20	14	14 Oahu				
0.06900656 x	937547 =	64696.9	21	15	15 Oahu				
0.40824829 x	154920 =	63245.8	22	3	3 Maui				
0.06454972 x	937547 =	60518.4	23	16	16 Oahu				
0.06063391 x	937547 =	56847.1	24	17	17 Oahu				
0.0571662 x	937547 =	53596	25	18	18 Oahu				
0.28867513 x	184286 =	53198.8	26		4 Hawai	i			
0.05407381 x	937547 =	50696.7	27		19 Oahu				
0.05129892 x	937547 =	48095.1	28		20 Oahu				
0.70710678 x	67090 =	47439.8	29		2 Kauai				
0.0487950 x	937547 =	45747.6	30		21 Oahu				
0.28867513 x	154920 =	44721.6	31		4 Maui				
0.04652421 x	937547 =	43618.6	32		22 Oahu				
0.04445542 x	937547 =	41679	33		23 Oahu				
0.2236068 x	184286 =	41207.6	34		5 Hawai	i			
0.04256283 x	937547 =	39904.7	35		24 Oahu				
0.04082483 x	937547 =	38275.2	36		25 Oahu				
0.03922323 x	937547 =	36773.6	37		26 Oahu				
0.03774257 x	937547 =	35385.4	38		27 Oahu				
0.2236068 x	154920 =	34641.2	39		5 Maui				
0.03636965 x	937547 =	34098.3	40		28 Oahu				
0.18257419 x	184286 =	33645.9	41		6 Hawai	i			
0.03509312 x	937547 =	32901.4	42		29 Oahu				
0.03390318 x	937547 =	31785.8	43		30 Oahu				
0.03279129 x	937547 =	30743.4	44		31 Oahu				
0.0317500 x	937547 =	29767.1	45		32 Oahu				
0.03077287 x	937547 =	28851	46		33 Oahu				
0.15430335 x	184286 =	28435.9	47		7 Hawai	i			
0.18257419 x	154920 =	28284.4	48		6 Maui				
0.02985407 x	937547 =	27989.6	49		34 Oahu				
0.40824829 x	67090 =	27389.4	50		3 Kauai				
0.02898855 x	937547 =	27178.1	51		35 Oahu				

Using "Extraction A" population base

Senate Seats by Basic Island Unit

State	1,360,301	25
Oahu	937,547	18
Hawaii	184,286	3
Maui	154,920	3
Kauai	67,090	1

House Seats by Basic Island Unit

State	1,360,301	51
Oahu	937,547	35
Hawaii	184,286	7
Maui	154,920	6
Kauai	67,090	3

Topics

- Reapportionment using "Extraction A" population base
- Senate Staggered Terms
 - Recommendations of the Technical Committee
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Senate Staggered Terms

Staggered Terms for the Senate

Hawaii Constitution Article IV Sections 7 and 8

"The reapportionment commission shall, as part of the reapportionment plan, assign two-year terms for twelve senate seats for the election immediately following the adoption of the reapportionment plan.

The remaining seats shall be assigned four-year terms.

Insofar as practicable, the commission shall assign the two-year terms to senate seats so that the resident population of each senate district shall have no more than two regular senate elections for a particular senate seat within the six-year period beginning in the even-numbered year prior to the reapportionment year."

[Add Const Con 1978 and election Nov 7, 1978; am HB 572 (1987) and election Nov 8, 1988; am SB 2234 (1992) and election Nov 3, 1992; am HB 1 (2000 2d) and election Nov 7, 2000]

Senate Staggered Terms

Description of the methodology used:

The commission's staff will identify each census block with a designation that it participated or did not participate in an election for state senator in the 2010 election.

Upon approval of the 2011 reapportionment plan by the commission, the staff will determine the population of each census block in each new senate district that had an election for senate in the year 2010. The staff will then identify twelve new senate districts seats which had the smallest populations of participation in the 2010 senatorial elections. These twelve new senate districts will be designated by the commission to have two year terms beginning in the 2012 election.

Topics

- Reapportionment using "Extraction A" population base
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Commission Schedule

Reapportionment Within Basic Island Units

Redraw District Lines

Hawaii Constitution Article IV Section 6

"Upon the determination of the total number of members of each house of the state legislature to which each basic island unit is entitled, the commission shall... redraw district lines where necessary in such manner that for each house the average number of permanent residents... in each district is nearly equal to the average for the basic island unit as practicable.

[Add Const Con 1978 and election Nov 7, 1978; am HB 2327 (1992) and election Nov 3, 1992]



- 1) population base
- 2) apportion representatives (reapportionment)
- 3) draw district boundaries (redistricting)





Redistricting Within Basic Island Units

Using "Extraction A" population base

Senate Seats by Basic Island Unit

State	1,360,301	25	target
Oahu	937,547	18	52,086
Hawaii	184,286	3	61,429
Maui	154,920	3	51,640
Kauai	67,090	1	67,090

House Seats by Basic Island Unit

State	1,360,301	51	target
Oahu	937,547	35	26,787
Hawaii	184,286	7	26,327
Maui	154,920	6	25,820
Kauai	67,090	3	22,363



- 1) population base
- 2) apportion representatives (reapportionment)
- 3) draw district boundaries (redistricting)





Recommended Final Plan

State

Congress



Except for Congress, the Recommended Final Plan uses the "Extraction A" population base and reflects changes made since public hearings completed.

Hawaii

Senate



House



Maui

Senate



House



Kauai

Senate



House



Oahu

Senate



House



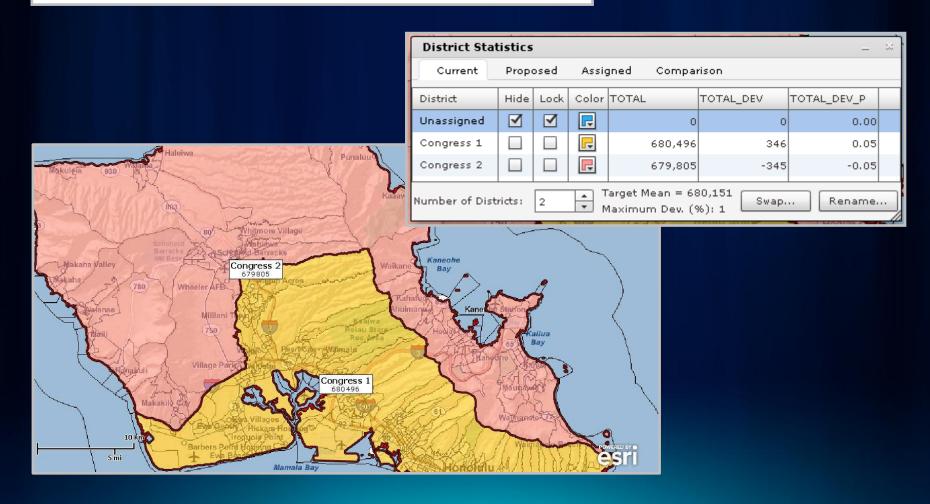
Aug 5 Proposed Plan – Congress

HAWAII REAPPORTIONMENT COMMISSION PROPOSED PLAN: CONGRESS

Plan: Congress Plan Deviation: 0.10%

Districts: two (Congress 1 - 2) highest deviation: 0.05%

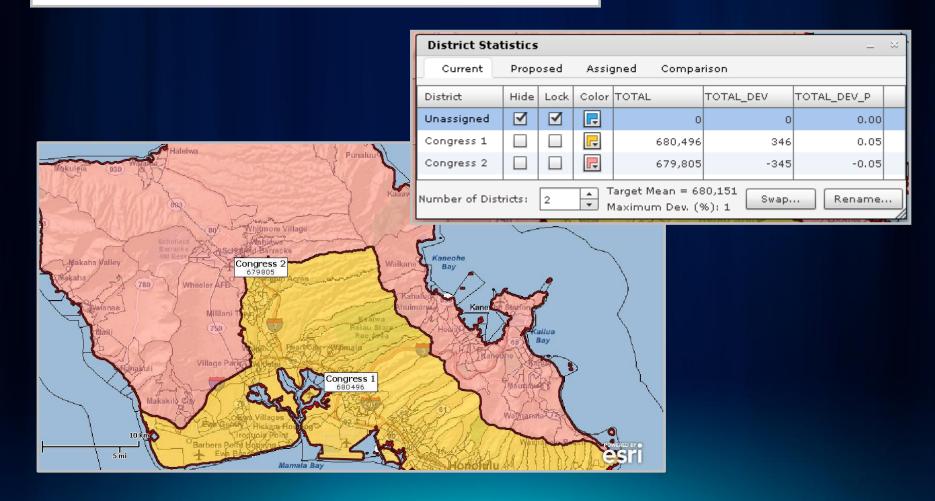
Target Population: 680,151 per district lowest deviation: -0.05%



Recommended Final Plan – Congress

HAWAII REAPPORTIONMENT COMMISSION FINAL PLAN: CONGRESS

Plan: Statewide Congress Plan Deviation: 0.10% Districts: two (Congress 1 - 2) highest deviation: 0.05% Target Population: 680,151 per district lowest deviation: -0.05%



Aug 5 Proposed Plan – Senate Hawaii

HAWAII REAPPORTIONMENT COMMISSION PROPOSED PLAN: SENATE HAWAII

Plan: Senate Hawaii

Districts: three (Senate 1 - 3)

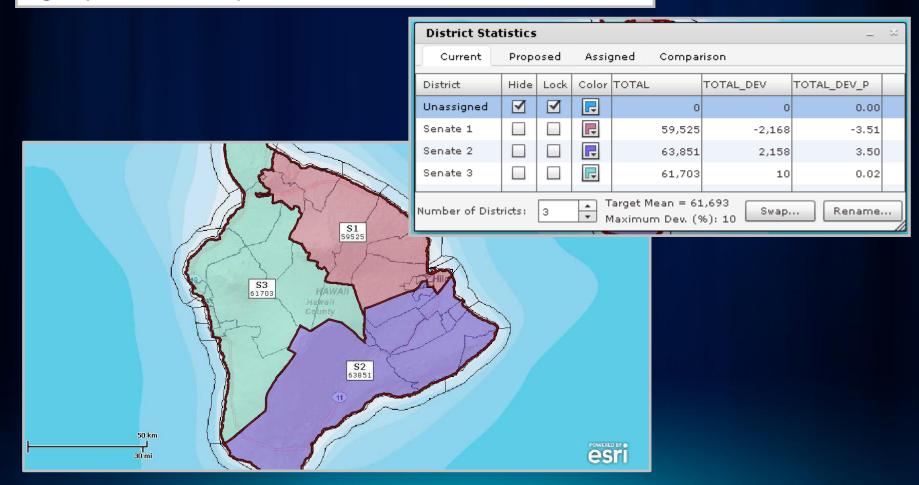
Target Population: 61,693 per district

PROPOSED PLANT SENATE HAWAII

Plan Deviation: 7.01%

highest deviation: 3.50%

lowest deviation: -3.51%



Recommended Final Plan – Senate Hawaii

HAWAII REAPPORTIONMENT COMMISSION

Hawaii Senate

Districts: three (Senate 1 - 3)

Plan:

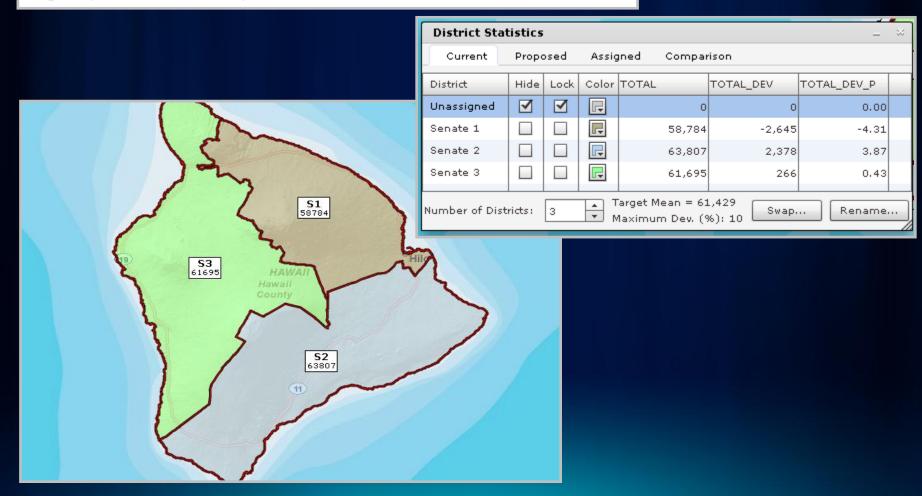
Target Population: 61,429 per district

FINAL PLAN: HAWAII SENATE

Plan Deviation: 8.18%

highest deviation: 3.87%

lowest deviation: -4.31%



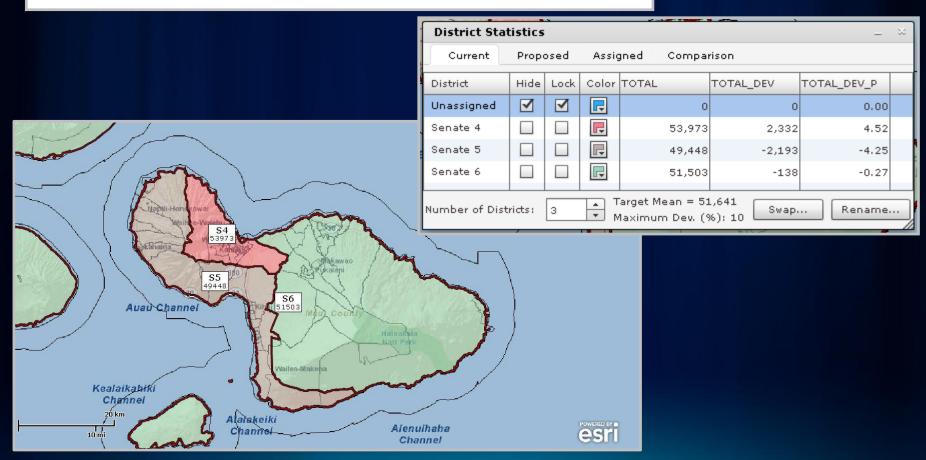
Aug 5 Proposed Plan – Senate Maui

HAWAII REAPPORTIONMENT COMMISSION PROPOSED PLAN: SENATE MAUI

Plan: Senate Maui Plan Deviation:

Districts: three (Senate 4 - 6) highest deviation: 4.52%

Target Population: 51,641 per district lowest deviation: -4.25%



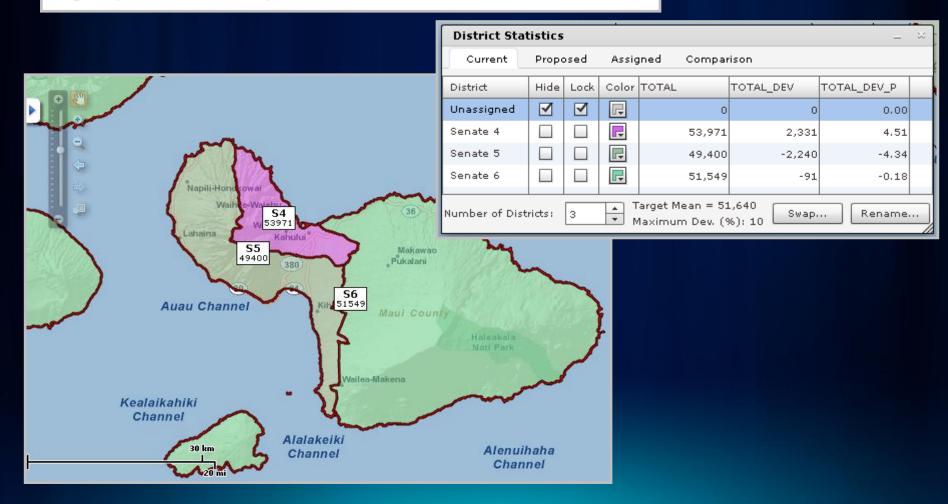
8.77%

HAWAII REAPPORTIONMENT COMMISSION FINAL PLAN: MAUI SENATE

Plan: Maui Senate Plan Deviation: 8.85%

Districts: three (Senate 4 - 6) highest deviation: 4.51%

Target Population: 51,640 per district lowest deviation: -4.34%







Aug 5 Proposed Plan – Senate Oahu

HAWAII REAPPORTIONMENT COMMISSION PROPOSED PLAN: SENATE OAHU

Plan: Senate Oahu Plan Deviation: 9.85%

Districts: eighteen (Senate 8 - 25) highest deviation: 4.84%

Target Population: 52,956 per district lowest deviation: -5.01%



District Statistics _ ×								
Current Proposed Assigned				Comparison				
District	Hide	Lock	Color	TOTAL		TOTAL_DEV	TOTAL_DEV_P	
^t Unassigned	✓	✓	F		0	0	0.00	
Senate 8			F		52,084	-872	-1.65	
Senate 9			F		52,236	-720	-1.36	
Senate 10					50,788	-2,168	-4.09	
Senate 11			F		51,396	-1,560	-2.95	
Senate 12					52,780	-176	-0.33	
Senate 13					52,657	-299	-0.56	
Senate 14					53,235	279	0.53	
Senate 15					55,218	2,262	4.27	
Senate 16					55,519	2,563	4.84	
Senate 17			F		54,341	1,385	2.62	
Senate 18					54,709	1,753	3.31	
Senate 19			F		55,047	2,091	3.95	
Senate 20					54,472	1,516	2.86	
Senate 21					52,843	-113	-0.21	
Senate 22			F		50,934	-2,022	-3.82	
Senate 23			F		50,303	-2,653	-5.01	
Senate 24					51,014	-1,942	-3.67	
Senate 25					53,631	675	1.27	
Number of Dist	ricts:	18	_	arget Me Naximun		Swap.	Rename.)

HAWAII REAPPORTIONMENT COMMISSION

FINAL PLAN: OAHU SENATE

highest deviation:

Plan: Oahu Senate

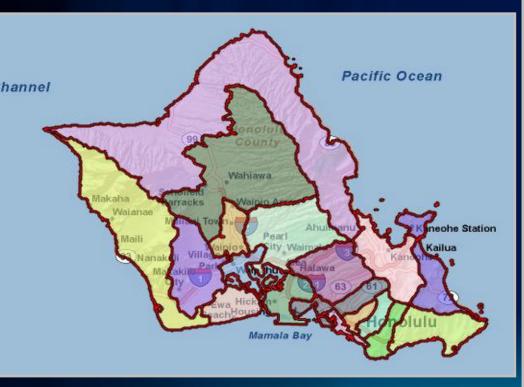
Plan Deviation: 8.50%

Districts: eighteen (Senate 8 - 25)

4.31%

Target Population: 52,086 per district

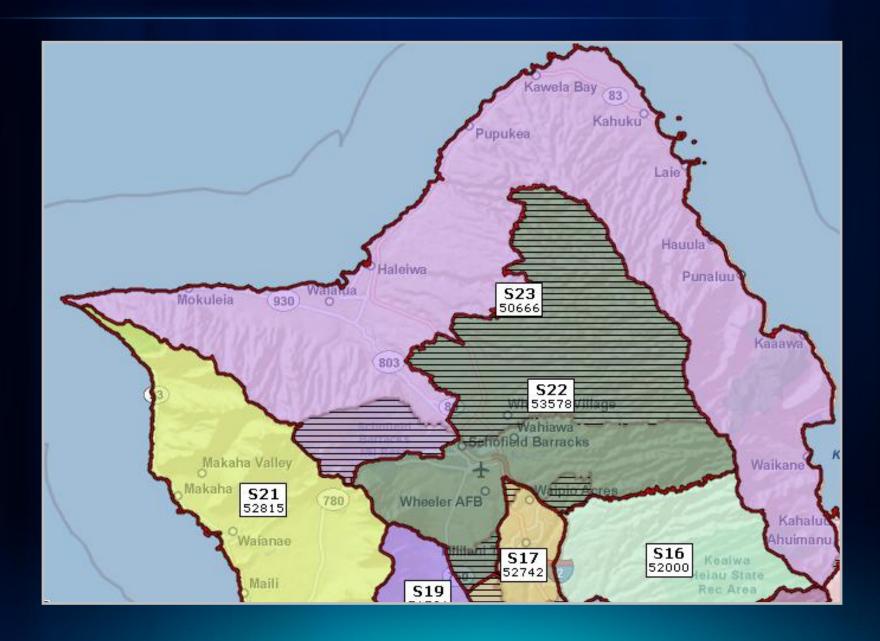
lowest deviation: -4.19%

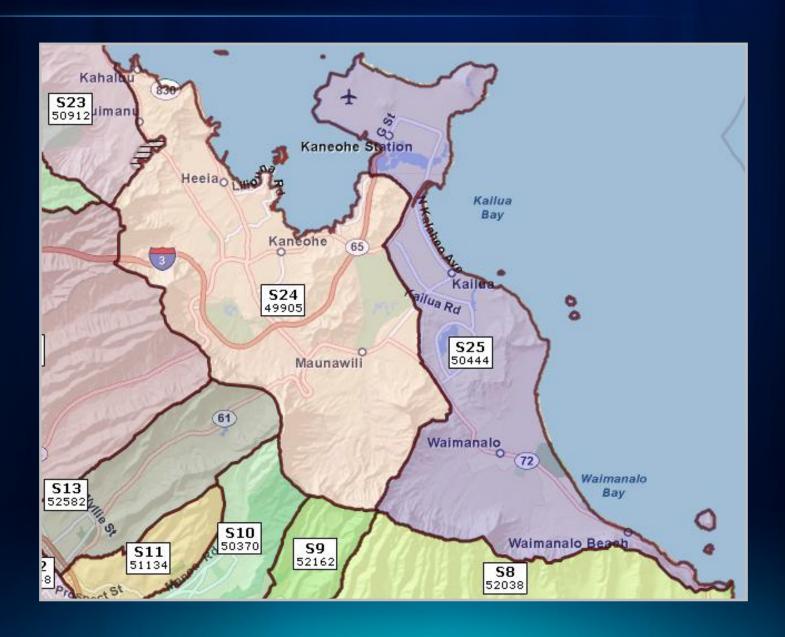


District Stat	istics							×
Current	Propo	osed	Assiq	ned	Compai	rison		
District	Hide	Lock	Color	TOTAL		TOTAL_DEV	TOTAL_DEV_P	
Unassigned	✓	✓	F		0	0	0.00	
Senate 8			F		52,038	-48	-0.09	
Senate 9					52,162	76	0.15	
Senate 10					50,370	-1,716	-3.29	
Senate 11			F		51,134	-952	-1.83	
Senate 12					51,948	-138	-0.26	
Senate 13			Ç		52,582	496	0.95	
Senate 14					52,704	618	1.19	
Senate 15					53,440	1,354	2.60	
Senate 16			F		52,000	-86	-0.17	
Senate 17			F		52,742	656	1.26	
Senate 18					53,096	1,010	1.94	
Senate 19			F		51,591	-495	-0.95	
Senate 20			F		54,332	2,246	4.31	
Senate 21			F		52,815	729	1.40	
Senate 22			F		53,578	1,492	2.86	
Senate 23					50,666	-1,420	-2.73	
Senate 24					49,905	-2,181	-4.19	
Senate 25			F		50,444	-1,642	-3.15	
Number of Dist	ricts:	18		-	ean = 52 n Dev. (9	. Swap	Rename	· ···]









Aug 5 Proposed Plan – House Hawaii

HAWAII REAPPORTIONMENT COMMISSION

Plan Deviation:

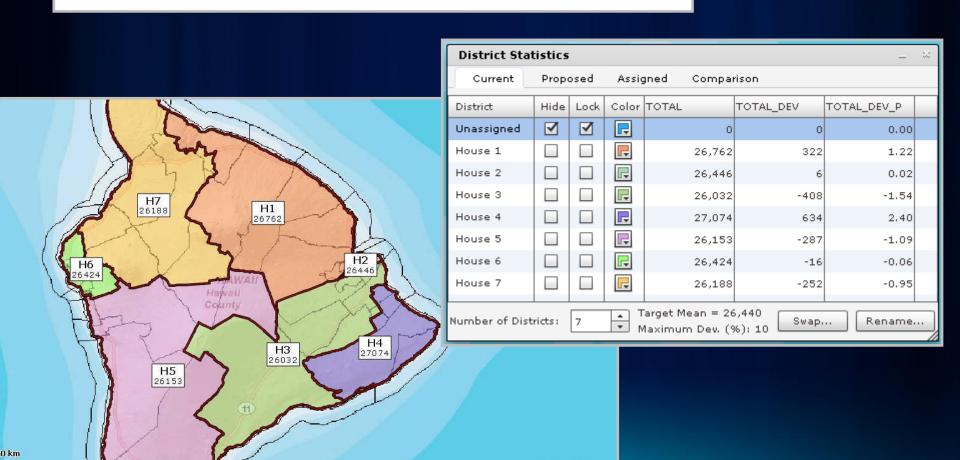
PROPOSED PLAN: HOUSE HAWAII

3.94%

Plan: House Hawaii

Districts: seven (House 1 - 7) highest deviation: 2.40%

Target Population: 26,440 per district lowest deviation: -1.54%



Recommended Final Plan – House Hawaii

HAWAII REAPPORTIONMENT COMMISSION

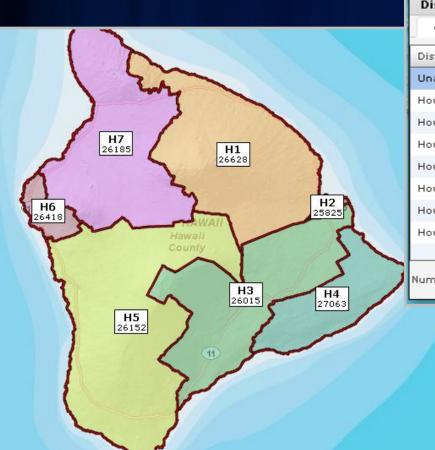
Plan: Hawaii House

seven (House 1 - 7) Districts: Target Population:

26,327 per district

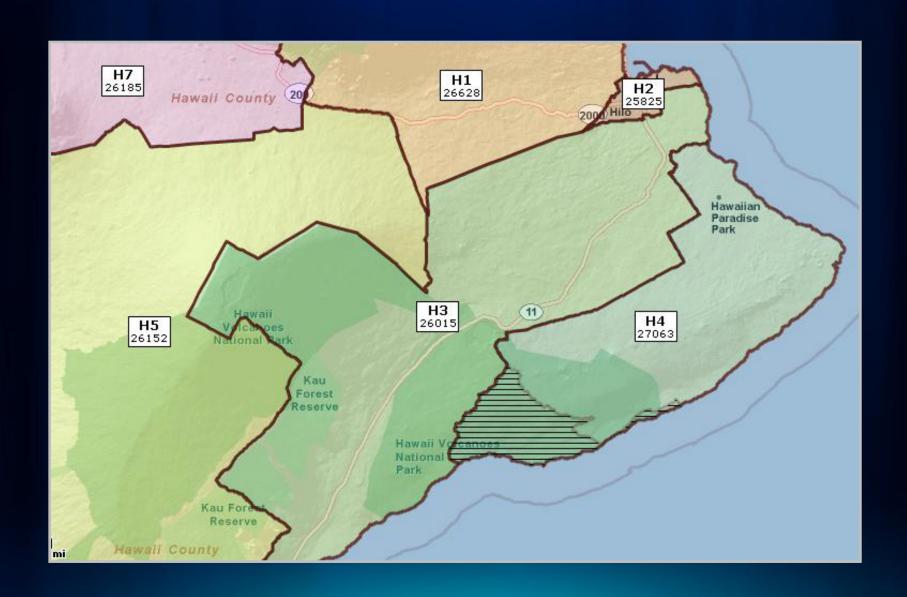
FINAL PLAN: HAWAII HOUSE

Plan Deviation: 4.71% highest deviation: 2.80% lowest deviation: -1.91%



District Statistics ×								
Current	Propo	Proposed Assigned Comparison						
District	Hide	Lock	Color	TOTAL		TOTAL_DEV	TOTAL_DEV_P	
Unassigned	✓	✓	F		0	0	0.00	
House 1			F		26,628	301	1.14	
House 2			P		25,825	-502	-1.91	
House 3					26,015	-312	-1.19	
House 4					27,063	736	2.80	
House 5					26,152	-175	-0.66	
House 6					26,418	91	0.35	
House 7					26,185	-142	-0.54	
Number of Dist	Number of Districts: 7 Target Mean = 26,327 Swap Rename Maximum Dev. (%): 10							

Recommended Final Plan – House Hawaii



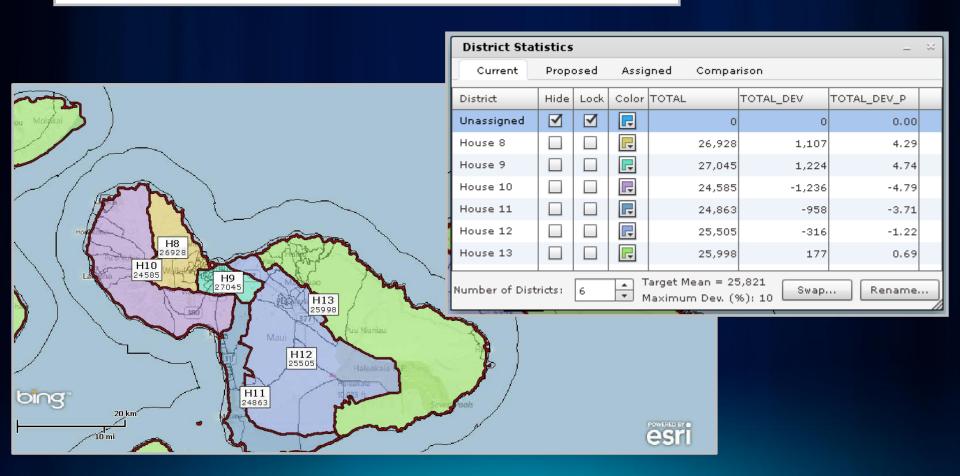
Aug 5 Proposed Plan – House Maui

HAWAII REAPPORTIONMENT COMMISSION PROPOSED PLAN: HOUSE MAUI

Plan: House Maui

Districts: six (House 8 - 13) highest deviation:

Target Population: 25,821 per district lowest deviation: -4.79%



Plan Deviation:

9.53%

4.74%

Recommended Final Plan – House Maui

HAWAII REAPPORTIONMENT COMMISSION

Plan: Maui House

Districts: six (House 8 - 13)

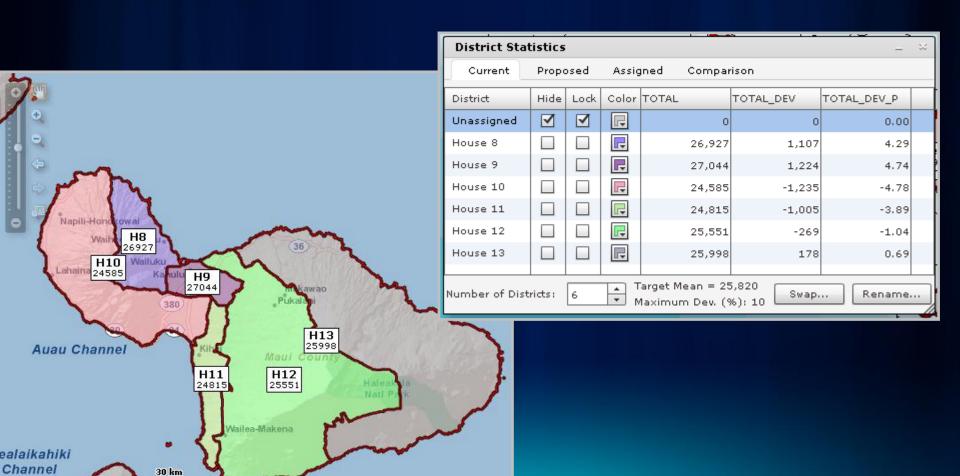
Target Population: 25,820 per district

FINAL PLAN: MAUI HOUSE

Plan Deviation: 9.52%

highest deviation: 4.74%

lowest deviation: -4.78%



Recommended Final Plan – House Maui



Aug 5 Proposed Plan – House Kauai

HAWAII REAPPORTIONMENT COMMISSION

Plan: House Kauai

Districts: three (House 14 - 16)

Target Population: 22,364 per district

PROPOSED PLAN: HOUSE KAUAI

Plan Deviation: 8.83%

highest deviation: 3.42%

lowest deviation: -5.41%



HAWAII REAPPORTIONMENT COMMISSION

Plan: Kauai House

Districts: three (House 14 - 16)

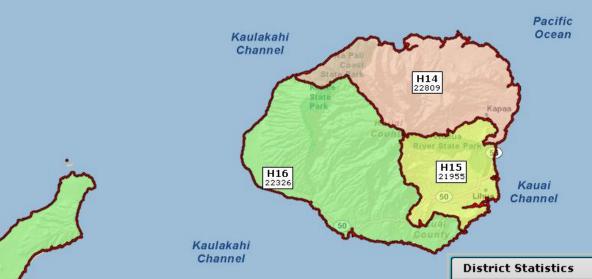
Target Population: 22,363 per district

FINAL PLAN: KAUAI HOUSE

Plan Deviation: 3.82%

highest deviation: 1.99%

lowest deviation: -1.82%



Pacific Ocean

District Statistics _ ×								
Current	Proposed		Assigned		Comparison			
District	Hide	Lock	Color	TOTAL		TOTAL_DEV	TOTAL_DEV_P	
Unassigned	✓	✓	F		0	0	0.00	
House 14			F		22,809	446	1.99	
House 15			F		21,955	-408	-1.82	
House 16			F		22,326	-37	-0.17	
Toward Mana = 22 2/2								
Number of Dist	3	Target Mean = 22,363 Maximum Dev. (%): 10 Swap						

Recommended Proposed Final Plan – House Kauai



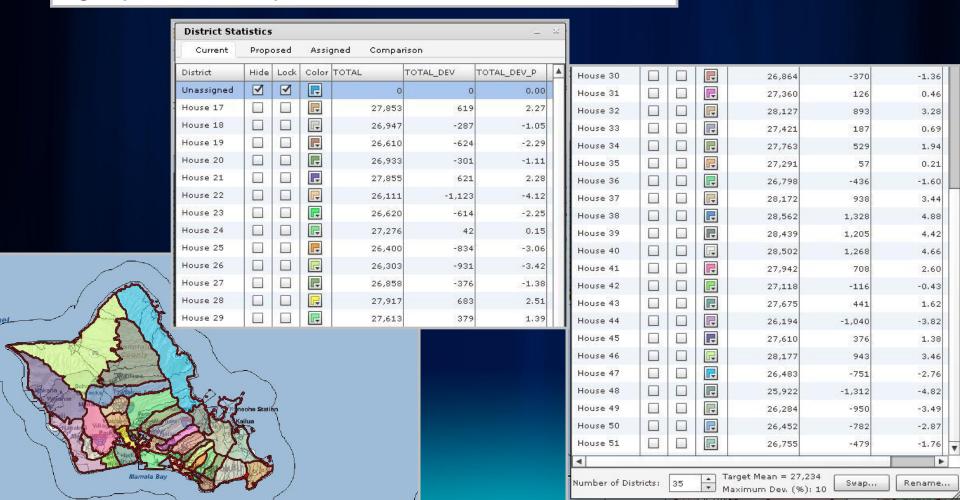
Aug 5 Proposed Plan – House Oahu

HAWAII REAPPORTIONMENT COMMISSION PROPOSED PLAN: HOUSE OAHU

Plan: House Oahu Plan Deviation: 9.70%

Districts: thirtyfive (House 17 - 51) highest deviation: 4.88%

Target Population: 27,234 per district lowest deviation: -4.82%

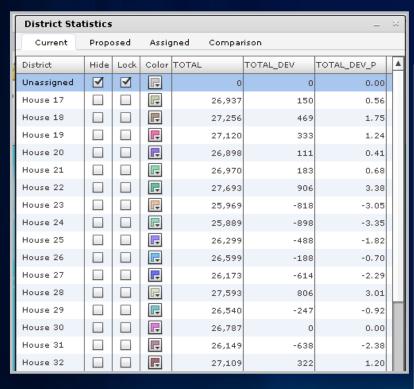


HAWAII REAPPORTIONMENT COMMISSION FINAL PLAN: OAHU HOUSE

Plan: Oahu House Plan Deviation: 9.46%

Districts: thirtyfive (House 17 - 51) highest deviation: 4.85%

Target Population: 26,787 per district lowest deviation: -4.61%



House 33								
House 35	House 33			F	26,747	-40	-0.15	
House 36	House 34			F	27,473	686	2.56	ш
House 37	House 35			F	26,822	35	0.13	
House 38	House 36			F	26,502	-285	-1.06	ш
House 39	House 37			F	27,430	643	2.40	
House 40 House 41 House 41 House 42 House 43 House 43 House 44 House 45 House 46 House 47 House 47 House 48 House 48 House 49 House 49 House 50 House 51 Number of Districts: 35 A Target Mean = 26,787 Swapu, Repare.	House 38			F	27,461	674	2.52	
House 41	House 39			F	26,057	-730	-2.73	
House 42	House 40			F	27,590	803	3.00	
House 43	House 41			F	27,706	919	3.43	
House 44	House 42				27,421	634	2.37	
House 45	House 43			F	28,086	1,299	4.85	
House 46	House 44			F	26,170	-617	-2.30	П
House 47	House 45			F	27,602	815	3.04	
House 48	House 46			F	27,999	1,212	4.52	
House 49	House 47			F	25,553	-1,234	-4.61	
House 50	House 48			F	25,716	-1,071	-4.00	
House 51	House 49			F	25,772	-1,015	-3.79	
Number of Districts: 35 Target Mean = 26,787 Swap Rename	House 50			F	25,702	-1,085	-4.05	
Number of Districts: 35 Target Mean = 26,787 Swap Rename	House 51			F	25,757	-1,030	-3.85	
Number of Districts: 35 Target Mean = 26,787 Swap Rename	4							Y
INumber of Districts: 135 ├── Swap Kename I	Target Mean = 26.787						_	
	Number of Dist	ricts:	35		Maximum Dev. (9	6): 10 Swap.	Kename.]

HAWAII REAPPORTIONMENT COMMISSION FINAL PLAN: OAHU HOUSE

Plan: Oahu House Plan Deviation: 9.46%

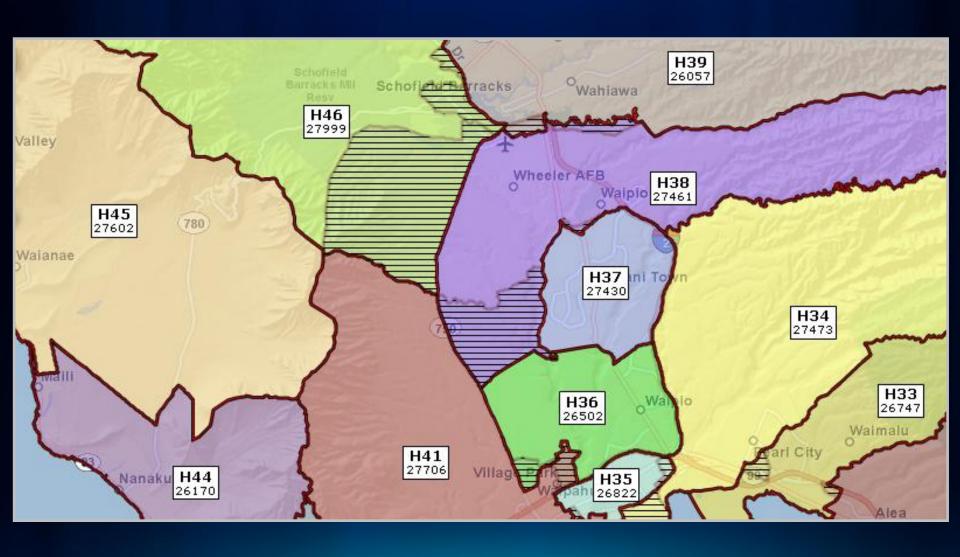
Districts: thirtyfive (House 17 - 51) highest deviation: 4.85%

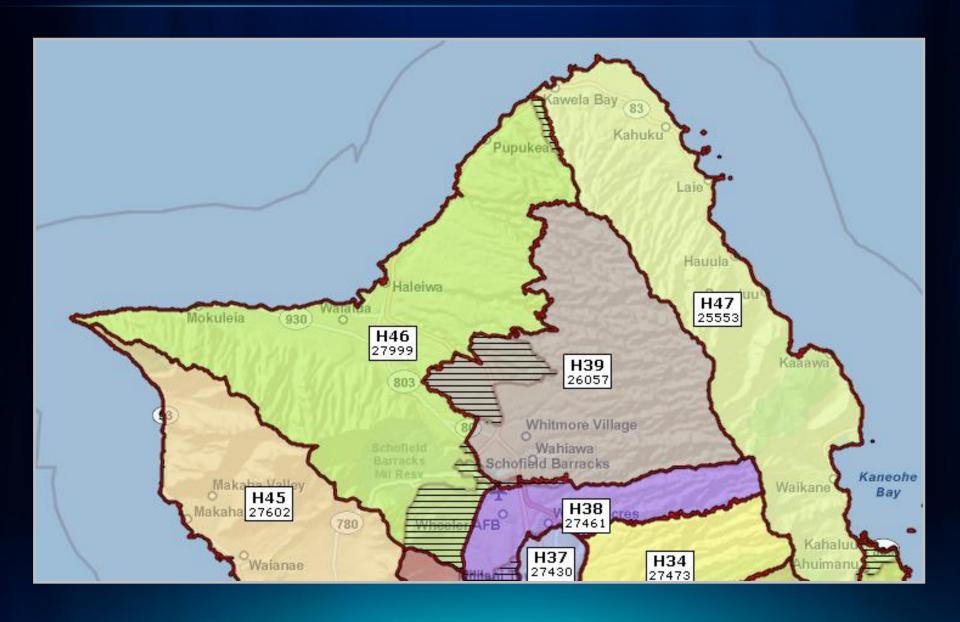
Target Population: 26,787 per district lowest deviation: -4.61%

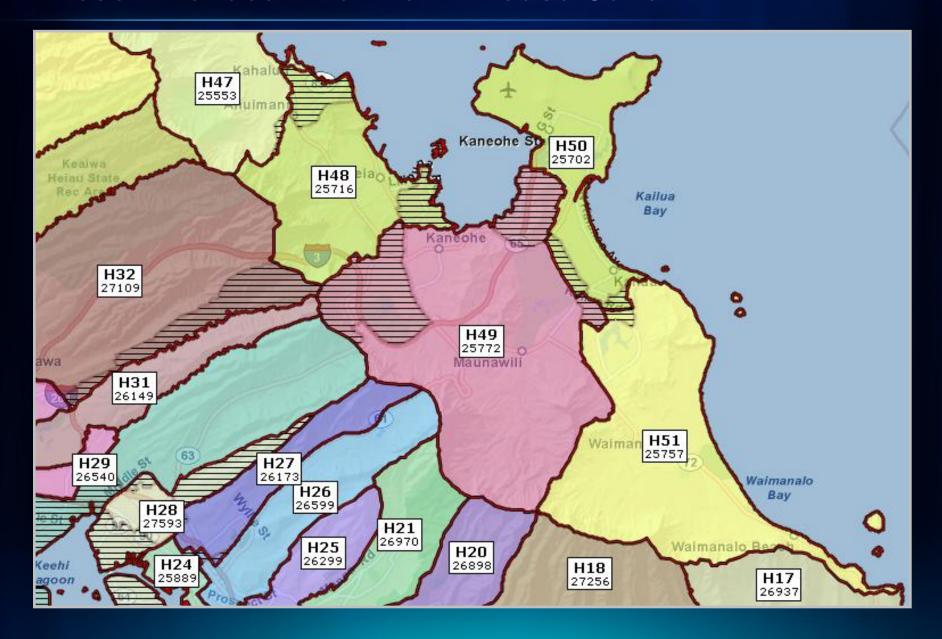












Topics

- Reapportionment using "Extraction A" population base
- Senate Staggered Terms Determination
- Recommendations of the Technical Committee
 - Congress
 - Senate
 - House

Commission Schedule

Commission Schedule

Aug 5	Commission Meeting: Adopt proposed plan
Aug 30 - Sep 16	Public Hearings and Comment Period
Sep 19	Commission Meeting
Sep 23	Commission Meeting
Sep 26	Commission Meeting
Sep 26	Statutory deadline to file final plan with Chief Election Officer
Oct 10	Statutory deadline for Chief Election Officer to publish final plan
Dec 29	Statutory deadline to submit final report to State Legislature









Hawaii Reapportionment Commission

23 September 2011

Commission Meeting

Reapportionment Project Office: Contact Information

http://hawaii.gov/elections/reapportionment

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415 South Beretania Street, Rm #445

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